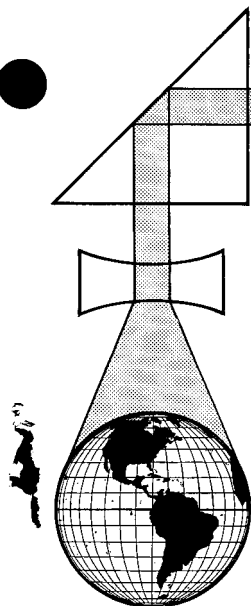


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NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

R & D NEWS NOTES

TECHNICAL SERVICES and SUPPORT GROUP

Vol. 1, No. 8

September, 1968

The following items are of general interest to those concerned with photo interpretation and related intelligence production. They are published by the Technical Services and Support Group with the objective of creating better communication between operational personnel and those engaged in R&D. Questions, comments and suggestions are encouraged and should be sent to Editor, R&D News Notes, Room 5S-453, [REDACTED]

Portable Film Chip Viewer

The Portable Film Chip Viewer is a small table top rear projection viewer developed by the Naval Reconnaissance and Technical Support Center. This instrument was designed to handle three different types of chips currently being utilized in the Integrated Operational Intelligence System. (The IOIS is the Navy's acquisition and exploitation system used on large attack aircraft carriers.) These are: aperture cards, miniaturized transparencies (MITRAN's) and Microfiche transparencies containing high quality continuous tone photographic imagery, line copy of text, as well as graphic material miniaturized on standard (7 3/8 x 3 1/4 inch) EAM cards. The chip viewer is capable of projecting all or selected portions of the above micro-imagery onto a 11.7 x 11.7 inch viewing screen, where the image is focused. Analysis of the imagery can then be performed at either 5X or 14X magnification. The traversing mechanism provides free movement in either the X or Y direction. Screen illumination provides a screen brightness, on axis, of 200 foot lamberts at 14X, and 1550 foot lamberts at 5X magnification. Resolution on-axis is 57 lines/mm at 5X and 114 lines/mm at 14X magnification. Heat generated by the projecting lamp is dissipated by a fan.

Weight

26 pounds

Size

25 3/4" x 17 1/2" x 20 1/4"

Declass Review by NGA.

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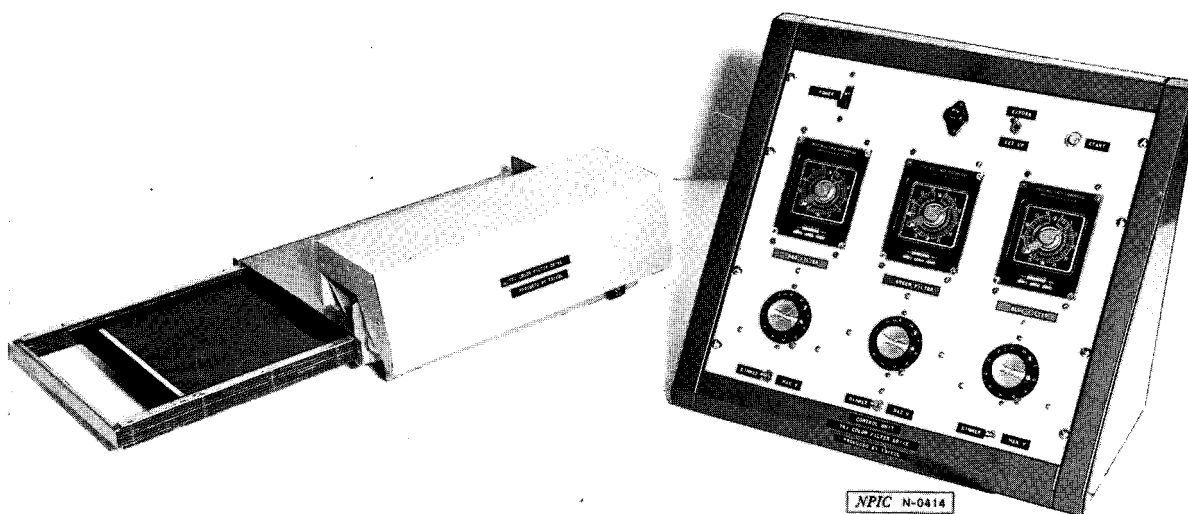
Power Requirement 115 Volts AC, 50-60 Cps, 5 Amp
 Status Evaluated and Accepted by the NAVAIRSYSCOM.
 Quantity procurement order to be placed
 by NAVAIRSYSCOM.

Point of Contact: [REDACTED] Naval Reconnaissance and Technical
 Support Center, Telephone: [REDACTED] [REDACTED]

Improvements Made on Color Enlarger

A Tri-Color Programmer to improve the efficiency of the Durst Color Enlarger used in the NPIC Photo Lab has been developed by the Technical Performance Division, TSSG. Prior to the Programmer, developed by [REDACTED] three filters were manually inserted in the enlarger, one at a time and exposures were made with each filter. This procedure was time consuming when numerous identical prints had to be produced. The assembly on the left is a modified Durst Filter-Pack. Three small motors and an intricate mechanical arrangement now permit the three filters to be positioned by remote control. The control unit shown on the right is a complex electro-mechanical assembly that regulates the insertion and the exposure setting for each filter.

The exposure parameters, time and printing lamp voltage, must be manually determined and dialed into the console for each of the three colors. Then, upon pressing the start button, the programmer will proceed to automatically make all three filter changes and exposures, one right after the other, and stop upon completion. Additional copies are printed by simply pressing the start button for each successive exposure cycle. For further information, contact [REDACTED] Room 4N-411. [REDACTED]



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Faster Analysis of Obscure Imagery

The Image Quantizer (IQ) is a newly acquired instrument designed to assist in the analysis of obscure imagery. The IQ output is like that of an isodensitracer (IDT), namely the specimen transparent imagery is restructured in a print that portrays contours connecting points of equal density. These are similar to elevation contours in a contour terrain map. Its outstanding feature is the high speed with which it carries out this function. The IQ can scan a specimen transparency and yield an iso-density print in 6-7 minutes. This compares with 2-6 hours for a comparable output from an IDT. The high speed feature permits rapid, optimization of instrument parameters for the analysis of any particular piece of imagery. The IQ prints are the same size as the input transparency; thus, specimen imagery must be enlarged to the desired magnification prior to processing in the instrument.

An associated equipment, the High Magnification Printer, is specially designed to handle nine inch film and to yield high resolution enlargements at various magnifications between 30X and 600X. Allowing for processing time to make enlargements, the IQ system yields results of comparable quality from 4 to 12 times faster than the IDT depending upon imagery complexities and number of samples.

This high speed, high output feature anticipates future growth in the volume of obscure imagery which will require special analysis for maximum information extraction. The IQ was developed [redacted] for the Exploratory Laboratory under the Image Analysis Program. The Project Officer is [redacted]

[redacted] [redacted]

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X1

X1

25X

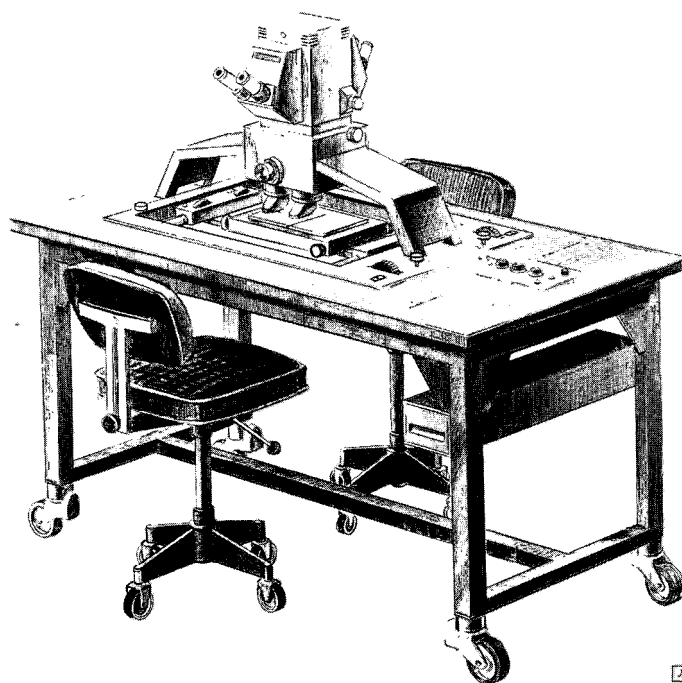
25X

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Improvements to Dual Viewing Microstereoscope

As a result of an extensive evaluation of a DED/TSSG developed prototype by technical and operational components at NPIC, many significant improvements will be incorporated in the production models of Dual Viewing Microstereoscope. The production contract has been let and the ten units to be delivered to NPIC [] will begin to arrive in about one year.

This instrument permits two people to sit facing each other at two viewing stations and stereoscopically view the same stereopair at a common magnification and orientation. At 75X magnification it will be capable of reading 354 lines per millimeter on axis. At least 50% greater light illumination than that available on the prototype will be provided. Another improvement is a re-designed translating stage that will permit movement of stereo pairs with much finer control for more accurate use of the pointing reticle. This improved pointing device (adjustable in size and position) will allow either interpreter to precisely indicate objects of interest on the imagery to the other P.I. Additional DVM II units can still be ordered at volume cost savings if requisitions are received by NPIC by 15 October 1968. [] contractual association with CIA is classified Confidential, but all other aspects of this project are unclassified. The Project Officer is []



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